AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions and listings of claims in the above-referenced application:

1. (Currently amended) A method for filtering a received signal in a wireless receiver, comprising:

providing a received signal to a multiple-stage baseband filter chain located between a downconverter and a demodulator, the multiple-stage baseband filter chain comprising an input, ~~a~~ variable gain amplifiers and an output; and

inverting the impedance of the received baseband signal in ~~the~~ a first stage of a multiple-stage baseband filter chain using an inductance applied at ~~the~~ an output of ~~the~~ a first stage variable gain amplifier, the baseband filter chain arranged such that a feedback path ~~loop~~ is located between an output of ~~the~~ a ~~variable gain~~ transconductance amplifier and ~~the output~~ an input of the ~~filter chain~~ transconductance amplifier.

2. (Currently amended) The method of claim 1, wherein inverting the impedance of the received signal at the output of the first stage variable gain amplifier comprises using a voltage controlled current source to transform the inductance applied to the received signal to a capacitance.

3. (Original) The method of claim 2, further comprising implementing the voltage controlled current source as a pair of transconductance amplifiers.

4. (Previously presented) The method of claim 3, further comprising inserting a capacitance at the output of the filter chain.

5. (Currently amended) A low-noise baseband filter for a wireless receiver, comprising:

a multiple-stage filter chain, a first stage of the multiple-stage filter chain comprising:

an amplifier; ~~and~~

an impedance inverter applied at the output of the amplifier and configured to transform inductance applied to a received baseband signal to a capacitance, the impedance inverter ~~having a feedback loop located between an output of the amplifier and an output of the low-noise filter~~ arranged such that a feedback path is located between an output of a first transconductance amplifier and an input of the first transconductance amplifier, the feedback path including a second transconductance amplifier; and

a bi-quad filter coupled to the output of the impedance inverter.

6. (Canceled)

7. (Currently amended) The low-noise baseband filter of claim 5, wherein the impedance inverter further comprises:

~~a pair of transconductance amplifiers; and~~

at least one capacitance coupled to the output of one of the first and second transconductance amplifiers.

8. (Original) The low-noise filter of claim 7, wherein the impedance inverter removes direct current (DC) offset present at the input of the amplifier.

9. (Currently amended) A portable transceiver, comprising:

a modulator configured to receive and modulate a data signal;

an upconverter configured to receive the modulated data signal and provide a radio frequency (RF) signal;

a transmitter configured to transmit the RF signal; and

a direct conversion receiver having a baseband filter chain including an amplifier, a bi-quad filter and an impedance inverter configured to transform inductance applied to a received signal to a capacitance, the impedance inverter having a feedback path ~~loop~~ located between an output of a first transconductance amplifier and an input of the first transconductance amplifier, the feedback path including a second transconductance amplifier ~~an output of the amplifier and an output of the filter~~.

10. (Canceled)

11. (Currently amended) The portable transceiver of claim ~~10~~ 9, wherein the impedance inverter further comprises:

~~a pair of transconductance amplifiers; and~~

at least one capacitance coupled to the output of one of the first transconductance amplifier[~~s~~].

12. (Original) The portable transceiver of claim 11, wherein the impedance inverter removes direct current (DC) offset present at the input of the amplifier.

13. (Currently amended) A portable transceiver, comprising:

means for modulating a data signal;

means for upconverting the modulated data signal and provide a radio frequency (RF) signal;

means for transmitting the RF signal;

means for converting a received signal to a baseband signal;

means for amplifying the baseband signal; and

means for inverting the impedance of the received baseband signal at the output of the means for amplifying ~~means~~ in a first stage of a multiple-stage baseband filter chain to transform inductance applied to ~~a~~ the received baseband signal to a capacitance, the means for inverting the impedance having a feedback path ~~loop~~ that bypasses the means for amplifying ~~means~~.

14. (Original) The portable transceiver of claim 13, further comprising voltage controlled current source means for inverting the impedance of the received signal at the output of the amplifier to transform the inductance applied to the received signal to a capacitance.

15. (Currently amended) A system for removing direct current (DC) offset from a received signal, comprising:

a variable gain amplifier configured to amplify a downconverted representation of a received radio frequency (RF) signal to generate an amplified ~~RF~~ baseband signal; and

a gyrator-generated inductance applied at the output of the variable gain amplifier in a first stage of a multiple-stage baseband filter chain, the gyrator-generated inductance configured to transform inductance present at the output of the variable gain amplifier to a capacitance, the gyrator-generated inductance and the variable gain

amplifier arranged such that the amplified ~~RF~~ baseband signal is not applied at an input of the variable gain amplifier, the gyrator-generated inductance implemented via a first transconductance amplifier having differential inputs and a second transconductance amplifier having a single input.

16. (Previously presented) The system of claim 15, wherein the gyrator-generated inductance adds a high pass filter pole that is not a function of the transconductance of the variable gain amplifier.

17. (Original) The system of claim 15, wherein the gyrator-generated inductance shunts excess DC current present at the output of the variable gain amplifier to ground.

18. (Original) The system of claim15, wherein, at a frequency above a high-pass cutoff frequency, the gyrator-generated inductance appears as a high impedance at the output of the variable gain amplifier.